Reveo-0202USAAON00 10/719,663

In the Claims

substrate:

1. (Original) A method of fabricating a vertically integrated circuit, the method comprising the steps of:

providing a bulk substrate, said bulk substrate including a buried oxide layer; selectively creating strong bond regions and weak bond regions on said substrate; providing a first bonded semiconductor layer vertically supported on said substrate;

creating semiconductor device portions on said first bonded semiconductor layer, said semiconductor device portions corresponding to said weak bond regions; removing said first semiconductor layer from said bulk substrate; and bonding said first semiconductor layer to a second semiconductor layer.

- 2. (Original) The method of claim 1, wherein said buried oxide layer is formed by ion implantation.
- 3. (Original) The method of claim 2, wherein said buried oxide layer is formed by oxygen implantation.
- 4. (Original) A method of fabricating a vertically integrated circuit, the method comprising the steps of:

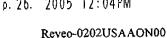
providing a bulk substrate; selectively creating strong bond regions and weak bond regions on said substrate; providing a first bonded semiconductor layer vertically supported on said

creating semiconductor device portions on said first bonded semiconductor layer, said semiconductor device portions corresponding to said weak bond regions;

forming a buried oxide layer at the interface between said first semiconductor layer and said bulk substrate;

removing said first semiconductor layer from said bulk substrate; and bonding said first semiconductor layer to a second semiconductor layer.

5. (Original) The method of claim 4, wherein said buried oxide layer is formed by ion implantation.



10/719,663

(Withdrawn) A method of fabricating a vertical microelectromechanical device, 6. the method comprising the steps of:

providing a bulk substrate, said bulk substrate including a buried oxide layer; selectively creating strong bond regions and weak bond regions on said substrate; providing a first bonded semiconductor layer vertically supported on said substrate;

creating an electrode on said first bonded semiconductor layer, said electrodes corresponding to said weak bond regions:

creating an actuatable element disposed opposite said electrode; removing said first semiconductor layer from said bulk substrate; and bonding said first semiconductor layer to a second semiconductor layer.

- (Withdrawn) The method of claim 6, wherein said buried oxide layer is formed 7. by ion implantation.
- (Withdrawn) A method of fabricating a vertical microelectromechanical device, 8. the method comprising the steps of:

providing a bulk substrate, said bulk substrate including a buried oxide layer; selectively creating strong bond regions and weak bond regions on said substrate; providing a first bonded semiconductor layer vertically supported on said substrate:

creating an electrode on said first bonded semiconductor layer, said electrodes corresponding to said weak bond regions;

creating an actuatable element disposed opposite said electrode;

forming a buried oxide layer at the interface between said first semiconductor layer and said bulk substrate;

removing said first semiconductor layer from said bulk substrate; and bonding said first semiconductor layer to a second semiconductor layer.

- (Withdrawn) The method of claim 8 wherein said buried oxide layer is formed 9. by ion implantation.
- 10. (Withdrawn) A method of fabricating a multi layer microfluidic device, the method comprising the steps of:

providing a bulk substrate, said bulk substrate including a buried oxide layer;

Reveo-0202USAAON00 10/719,663

selectively creating strong bond regions and weak bond regions on said substrate; providing a first bonded layer vertically supported on said substrate;

creating a port on said first bonded layer, said port corresponding to said weak bond regions;

creating a channel mechanically coupled to said port; removing said first layer from said bulk substrate; and bonding said first layer to a second layer.

- 11. (Withdrawn) The method of claim 10, wherein said bulk oxide layer is formed by ion implantation.
- 12. (Withdrawn) A method of fabricating a multi layer microfluidic device, the method comprising the steps of:

providing a bulk substrate;

selectively creating strong bond regions and weak bond regions on said substrate; providing a first bonded layer vertically supported on said substrate;

forming a buried oxide layer at the interface between said first bonded layer and said bulk substrate;

creating a port on said first bonded layer, said port corresponding to said weak bond regions;

creating a channel mechanically coupled to said port; removing said first layer from said bulk substrate; and bonding said first layer to a second layer.

13. (Withdrawn) The method of claim 12, wherein said bulk oxide layer is formed by ion implantation.